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Mineral Industry Surveys

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FLUORSPAR IN THE FIRST QUARTER 2000

Reported consumption of fluorspar was 137,000 metric tons, 12.2% higher than in the previous quarter but 4.6% lower than in the first quarter of 1999. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride production was 129,000 tons, 12.7% higher than in the previous quarter and essentially unchanged from the first quarter of 1999. Imports of fluorspar were 114,000 tons, essentially unchanged from the previous quarter but 24% lower than in the first quarter of 1999.

National Defense Stockpile

The Fiscal Year 2000 Annual Materials Plan (AMP) was revised, thus allowing the additional disposal of the approximately 11,800 tons (13,000 short dry tons) of metallurgical grade that was awarded to Hastie Mining and Trucking on the January 20, 2000 (Mory, 2000).

Industry News

The merger between Canadian companies Burin Fluorspar Ltd. and Blue Desert Mining Inc. was approved, forming the new company Canada Fluorspar Inc. The merger was accomplished through a reverse takeover of Blue Desert Mining by Burin Fluorspar; shares of the new company will trade on the Canadian Venture Exchange (Canada Fluorspar Inc., 2000).

The International Fluorspar Conference 2000 was held at the Hyatt Regency Tech Center in Denver, CO, on March 22-24, 2000. The presentations included discussions about project development activities in Canada and mining activities in China, Russia, and South Africa. Market-related topics included discussions that ranged from metspar markets and synthetic fluorspar to fluoropolymers and blowing agents.

Fluorochemical News

Honeywell Inc. is constructing a new manufacturing facility in Geismar, LA, to produce HFC-245fa, which is designed to replace HCFC-141b in a range of foam-blowing applications in rigid polyurethane and polyisocyanurate foam insulation. The plant is scheduled to be fully operational by the summer of 2002, and semicommercial quantities should be available by the third quarter of 2000 (Chemical Market Reporter, 2000a).

In a related project, Vulcan Materials Co. has announced it will build a new facility at its Geismar, LA, chemicals complex to produce HCC-240fa (pentachloropentane). Vulcan has signed a long-term agreement with Honeywell to supply HCC-240fa as feedstock to Honeywell's HFC-245fa plant. The Vulcan facility is also scheduled to be operational in the summer of 2002 (Chemical Market Reporter, 2000b).

Great Lakes Chemical Corp. announced that it had more than doubled its HFC-32 production capacity at its manufacturing facility in southern Arkansas. The capacity increase is designed to maintain the company's position as the world's leading producer of HFC-32. HFC-32 is used in the new refrigerant R-410A, which is a 50/50 azeotropic mixture of HFC-32 and HFC-125 that is designed to replace HCFC-22 (Great Lakes Chemical Corp., March 6, 2000, Press release, accessed May 31, 2000, at URL http://www.greatlakeschem.com/news/000306a.html). In addition, Great Lakes Chemical and ICI Klea (the fluorochemicals business of the ICI Group) announced that they will form a joint venture to manufacture and supply HFC-227ea (heptafluoropropane) that will be used in metered dose inhalers. HFC-227ea is a medical propellant developed to replace chlorofluorocarbon (CFC) propellants that are being eliminated as part of the international phase out of CFCs. The new pharma HFC-227ea plant will be located at Great Lakes' facility in southern Arkansas (ICI Klea, February 9, 2000, News release, accessed February 22, 2000, at URL http://www.klea.co.uk/news/ view.cfm?id=51).

Pelchem, the chemical division of Pelindaba Technology, the commercial arm of the South African Nuclear Energy Corporation, announced the official launch of two new fluorine chemical plants at its Pelindaba site near Pretoria. The two plants will produce tungsten hexafluoride and chlorine trifluoride, respectively, for use in the semiconductor industry (Pelchem, May 5, 2000, News release, accessed May 31, 2000, at URL http://www.pelchem.co.za/news.html). Pelchem's core business involves the production of HF, fluorine, and tetrafluoroethylene.

Additional information has become available on the subject of processing byproduct fluorosilicic acid from the phosphoric acid industry. Kvaerner Process Technology AG (formerly Buss AG) has developed a process to produce HF from fluorosilicic acid that produces a final HF product of 99.98% purity with byproducts of sulfuric acid and silica. As stated by the company, an off gas containing 10 to 25 milligrams fluorine per cubic meter after scrubbing with water is expected. Further treatment would depend on local environmental regulations (Dieter Böse, Manager Marketing and Sales, Kvaerner Process Technology, written commun., May 15, 2000).

References Cited

Canada Fluorspar Inc., 2000, Information brochure: Canada Fluorspar Inc., March, 4 p.

Chemical Market Reporter, 2000a, Honeywell plans HFC plant: Chemical Market Reporter, v. 257, no. 14, April 3, p. 3.

———2000b, Vulcan to build HCC plant: Chemical Market Reporter, v. 257, no. 15, April 10, p. 3.

Mory, Peter, 2000, Revised FY 2000 annual materials plan: Ft. Belvoir, VA, Defense National Stockpile Center press release, April 3, 3 p.

TABLE 1
SALIENT FLUORSPAR STATISTICS 1/

(Metric tons, unless otherwise specified)

	1999					2000
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	First quarter
Imports for consumption	150,000	106,000	107,000	116,000	478,000	114,000
Value per ton, c.i.f U.S. port, acid grade	$120	$117	$132	$126	$124 2/	$126
Value per ton, c.i.f. U.S. port, metallurgical	$86	$91	$88	$83	$87 2/	$85
Exports	18,200	5,890 r/	18,900	12,300	55,400 r/	5,320
End of quarter stocks: consumer 3/	136,000	117,000	105,000	89,800 r/	89,800 r/	84,400
Fluorspar equivalent of imported hydrofluoric acid 4/	47,000	50,400	39,000	43,500	180,000	50,800
Fluorspar equivalent of imported cryolite	3,680	3,100	2,310	2,380 r/	11,500 r/	2,910
Quarterly reported fluorspar consumption	143,000	104,000	134,000	122,000 r/	504,000 r/	137,000

r/ Revised.

1/ Data are rounded to no more than three significant digits.

2/ Average value for year-to-date 1999.

3/ Does not include material purchased from the National Defense Stockpile by traders or indirect consumers.

4/ Does not include hydrofluoric acid from foreign trade zone.

TABLE 2
CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE 1/
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

	Fourth quarter 1999				First quarter 2000		
End use or product	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	1999 Year to date	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total
Hydrofluoric acid and aluminum fluoride	114,000 r/	478	114,000 r/	470,000 r/	129,000	16	129,000
Basic oxygen furnaces	--	2,490	2,490	9,590	--	1,820	1,820
Electric furnaces	W	1,620	1,620	8,780	W	2,590	2,590
Other uses or products 2/	965 r/	2,590 r/	3,560	15,000	1,040	2,570	3,600
Total	115,000 r/	7,180 r/	122,000 r/	504,000 r/	130,000	6,990	137,000
Stocks, end of quarter	64,600 r/	25,200	89,800 r/	89,800 r/	58,100	26,300	84,400

r/ Revised. W Withheld to avoid disclosing company proprietary data: included in "Other uses or products." -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes acid grade used in enamel, glass and fiberglass, steel castings, welding rod coatings, and data represented by symbol "W."

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE 1/ 2/

	1999										2000	
	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date		First quarter	
	Quantity	Value 3/ (thousands)	Quantity	Value 3/ (thousands)	Quantity	Value 3/ (thousands)	Quantity	Value 3/ (thousands)	Quantity	Value 3/ (thousands)	Quantity	Value 3/ (thousands)
Containing more than 97% calcium fluoride:												
Austria	106	$56	1	$7	--	--	--	--	107	$63	--	--
China 4/	104,000	12,300	48,000	5,460	75,700	$10,200	59,900	$7,920	287,000	35,900	55,200	$7,190
France	70	28	18	8	75	31	--	--	163	67	77	27
Germany	41	19	--	--	250	34	--	--	291	53	17	11
Kenya	--	--	--	--	--	--	--	--	--	--	18	3
Mexico	2,170	258	3,340	421	3,120	386	8,880	1,110	17,500	2,170	9,230	1120
South Africa	31,400	3,810	28,500	3,410	17,600	2,080	36,200	4,220	114,000	13,500	37,900	4,490
United Kingdom	4	4	2	4	5	7	97	19	108	34	10	21
Total	137,000	16,500	79,900	9,310	96,700	12,700	105,000	13,300	419,000	51,800	102,000	12,900
Containing not more than 97% calcium fluoride:												
Canada	21	6	39	12	37	11	--	--	97	29	--	--
China	--	--	16,700	1,500	--	--	--	--	16,700	1,500	--	--
Mexico	12,200	1,040	8,900	809	10,200	886	10,600	882	41,900	3,620	11,200	948
Total	12,200	1,050	25,700	2,330	10,200	897	10,600	882	58,700	5,150	11,200	948

-- Zero.
1/ Imports for consumption include imports of immediate entry, and warehouse withdrawals.
2/ Data are rounded to no more than three significant digits; may not add to totals shown.
3/ C.i.f. at U.S. ports.
4/ Data do not agree with published Bureau of the Census data due to adjustments made by the U.S. Geological Survey.

Source: Bureau of the Census.

TABLE 4
IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID 1/

	1999										2000	
	First quarter		Second quarter		Third quarter		Fourth quarter		Year to date		First quarter	
	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)
Canada	7,000	$8,090	6,600	$7,860	6,840	$7,980	6,410	$7,040	26,800	$31,000	9,610	$10,300
China	--	--	--	--	17	14	--	--	17	14	17	14
France	92	106	56	57	72	77	123	134	343	374	71	67
Germany	48	100	17	35	38	100	44	114	147	349	18	43
Japan	391	1,230	355	1,050	329	930	366	939	1,440	4,150	404	1,070
Mexico	23,800	22,000	26,500	24,300	18,700	17,300	22,100	20,200	91,200	83,700	23,800	21,700
United Kingdom	19	20	19	20	--	--	--	--	38	40	--	--
Total	31,300	31,500	33,600	33,300	26,000	26,400	29,000	28,400	120,000	120,000	33,900	33,200

-- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ C.i.f. at U.S. ports.

Source: Bureau of the Census.